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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/394,097	09/13/1999	PAUL JOSEPH DAVIS	DAVIS 11-16-8	3702

7590 04/13/2006

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EXAMINER

SING, SIMON P

ART UNIT	PAPER NUMBER
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2614

DATE MAILED: 04/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/394,097		DAVIS ET AL.	
	Examiner		Art Unit	
	Simon Sing		2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li US 5,646,990 in view of Sacca US 5,692,042.

1.1 Regarding claim 1, Li discloses a full-duplex speakerphone in figures 1 and 2 (column 4, lines 62-67; column 5, lines 1-10; column 6, lines 11-28), comprising:

- a microphone signal from microphone 210 (column 6, lines 29-33);
- a speakerphone loudspeaker 236;
- a line (hybrid) echo canceller 254; and
- an automatic gain control (AGC) module 240 (figure 2).

Li fails to teach injecting a message playback signal into the speakerphone.

However, Sacca discloses a voice messaging system with speakerphone capability in figure 1 (column 7, lines 23-51). Sacca teaches injecting a tape playback message (from a tape player or telephone answering device) via switch 118 into a transmitting path at a point after a gain control module 147 and before a side-tone canceller 104 (column 7, lines 42-45) for transmitting the playback message combined

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with a microphone signal to a far end party in a speakerphone mode (column 8, lines 7-14, 26-53).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Li's reference with the teaching of Sacca so that a playback message would have been injected in to the speakerphone of Li at a summer after the AGC module (analogous to the gain control module 147 of Sacca) and before the line echo canceller (analogous to the side-tone canceller of Sacca), so that a far end party would have been able to converse with a near end party and to hear a playback message at the same time. The motivation for this modification was to enable a near-end user to connect one or more signal sources to a speakerphone as suggested by Sacca (Sacca, column 8, lines 1-14).

1.2 Regarding claim 2, it is inherent that a playback module, such as a tape player or a telephone answering machine, has an amplifier in its signal output path.

1.3 Regarding claim 3, Li teaches a fixed gain amplifier 212 and an automatic gain control (AGC) 240 in a transmitting path, and it is a matter of design choice to have two amplifiers, a fixed gain and a variable gain, instead of one gain module in a signal path.

1.4 Regarding claim 4, Li teaches a fixed gain amplifier 212 and an automatic gain control (AGC) 240 (figure 2).

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1.5 Regarding claim 5, Li teaches switched gain/loss modules 250 and 251 (column 7, lines 6-11).

1.6 Regarding claim 6, as discussed in claim 1, the modified Li reference teaches that the playback message is injected at a summer before line echo canceller 254.

1.7 Regarding claim 7, Li teaches a digital to analog converter (D/A) 256 in figure 2.

1.8 Regarding claim 8, Li teaches a Tx speech detector 224 (figure 2; column 7, lines 1-6).

1.9 Regarding claim 9, as discussed in claim 1, the modified Li's reference comprises a telephone answering device (for message playback).

1.10 Regarding claims 10 and 15, Li discloses a full-duplex speakerphone in figures 1 and 2 (column 4, lines 62-67; column 5, lines 1-20; column 6, lines 11-28), comprising:

means for establishing a connection with a far end party for a telephone conversation in a full-duplex speakerphone mode (column 4, lines 62-66); and

means for generating a microphone signal (column 4, lines 67 to column 5, line 9); and

Li fails to teach injecting a message playback signal into the speakerphone.

However, Sacca discloses a voice messaging system with speakerphone capability in figure 1 (column 7, lines 23-51). Sacca teaches injecting a tape playback message (from a tape player or telephone answering device) via switch 118 into a

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transmitting path at a point after a gain control module 147 and before a side-tone canceller 104 (column 7, lines 42-45) for transmitting the playback message combined with a microphone signal to a far end party in a speakerphone mode (column 8, lines 7-14, 26-53).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Li's reference with the teaching of Sacca so that a playback message would have been injected in to the speakerphone of Li at a summer after the AGC module (analogous to the gain control module 147 or Sacca) and before the line echo canceller (analogous to the side-tone canceller of Sacca), so that a far end party would have been able to converse with a near end party and to hear a playback message at the same time. The motivation for this modification was to enable a near-end user to connect one or more signal sources to a speakerphone as suggested by Sacca (Sacca, column 8, lines 1-14).

1.11 Regarding claim 11 and 16, Li teaches an AGC 240 for adjusting the signal level of microphone 210.

1.12 Regarding claim 12 and 17, it is inherent that a tape player has a gain control circuitry, such as volume control for controlling its output signal level.

1.13 Regarding claims 13 and 18, the modified Li reference, teaches injecting the play message before the input of line amplifier 270, and it is obvious to a circuit designer such that the amplifier 270 can be a adjustable gain amplifier.

1.14 Regarding claim 14 and 19, as discussed before, the playback message is injected at a summer at a point after the AGC 240.

Response to Arguments

2. Applicant's arguments filed on 01/15/2006 have been fully considered but they are not persuasive.

The applicants argue that Sacca does not teach a hybrid echo canceller (HEC) and an automatic gain control (AGC) module, and to suggest combining a playback signal at a summer before an AGC and after a HEC. However, Sacca teaches injecting a playback signal into a summer before a side-tone canceller (which performs the same function as HEC, see Sacca, column 7, lines 42-45) and after an AGC module amplifier and after. In addition, the line (hybrid) echo canceller and the automatic gain controller are taught by the primary reference (Li). In view of Sacca, it is logical to inject a playback signal into a point after a AGC module and before the line echo canceller.

Conclusion

3. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Simon Sing whose telephone number is 571-272-7545. The examiner can normally be reached on Monday - Friday from 8:30 AM to 5:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's


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supervisor, Fan Tsang, can be reached at 571-272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.



S. Sing

04/05/2006



FAN TSANG
SUPERVISORY PATENT EXAMINER
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